

Application No. 09/870,811  
Amendment dated March 10, 2005  
Reply to the Office Action of November 3, 2004

### **REMARKS**

Claims 1, 13 and 33 have been amended. No new claims have been added and no claims have been cancelled.

In the Office Action dated November 3, 2004, the Examiner rejected claims 1-7, 14-17, 20, 24-26, 28-31, 34-37, 40 and 43-46 under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of Martone et al. (U.S. publication no. 2002/0138389). The Examiner has also rejected claims 8-12, 18, 21-23, 27 and 38-42 under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and to claim 7 of Martone et al. (U.S. publication no. 2002/0138389) and further in view of Baber et al. (U.S. publication no. 2002/0013853). The Examiner has also rejected claims 13 and 19-20 under 35 U.S.C. 103(a) as being unpatentable to Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of claim 1 to Martone et al. (U.S. publication no. 2002/0138389) and further in view of Bommaiah et al. (U.S. Patent No. 6,708,213). The Examiner has also rejected claim 33 under 35 U.S.C. 103(a) as being unpatentable to Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of claim 40 to Martone et al. (U.S. publication no. 2002/0138389) and further in view of Jacobs et al. (U.S. Patent No. 6,571,274).

The undersigned has reviewed the November 3, 2004, Office Action and respectfully traverses all rejections for the reasons set forth herein. No new matter has been added. The undersigned respectfully requests that all pending claims be allowed.

#### **A. 35 U.S.C. 103(a) CASE LAW**

To establish a case of obviousness, the Examiner must meet three basic criteria. First, there must be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

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combine the references' teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant's disclosure. MPEP 706.02(j), citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Further a *prima facie* case of obviousness requires that all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

A rejection under 35 U.S.C. 103(a) is also not an open invitation for an Examiner to seek out individual claim limitations in disparate references and purport that combining the individual claim limitations is obvious. ``Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.* ... (Fed. Cir. 1998) (describing 'teaching or suggestion or motivation [to combine]' as an 'essential evidentiary component of an obviousness holding'); *In re Rouffet* ... (Fed. Cir. 1998) ('the Board must identify specifically ... the reasons one of ordinary skill in the art would have been motivated to select the references and combine them'); *In re Fritch* ... (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination 'only by showing some objective teaching [leading to the combination]'); *In re Fine* ... (Fed. Cir. 1988) (evidence of teaching or suggestion 'essential' to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.* ... (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it 'did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination'). *See also Graham*, 383 U.S. at 18, ... 148 USPQ at 467 ('strict observance' of factual predicates to obviousness conclusion required)."

U.S. case law also indicates that a combination of known elements may be patentable whether it be composed of elements all new, partly new or all old. (*Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 722 F.2d 1542 (Fed. Cir. 1983), *Environmental Designs, Ltd. v. Union*

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Oil Co., 218 U.S.P.Q. 865, 713 F.2d 693 (Fed. Cir. 1983; *cert. denied*, 224 U.S.P.Q. 520, 464 U.S. 1043 (1984); Rosemount, Inc. v. Beckman Instruments, Inc., 221 U.S.P.Q. 1, 727 F.2d 1540 (Fed. Cir. 1984). The patentability of combining old elements to obtain a new combination to achieve a result not suggested in the references is of ancient authority (*In re Wright*, 6 U.S.P.Q.2d 1959, 1962 (Fed. Cir. 1981)).

Thus, in order for the Examiner to establish a case of obviousness, he must (a) demonstrate that the prior art references describe or suggest all of the claimed limitations of the present invention, and (b) show a motivation to modify or combine the references. The Examiner has done neither.

Therefore, the Applicants are entitled to a patent unless the Examiner can show prior art references that teach all of the claimed elements and the Examiner can provide reasons to combine each and every one of the prior art references to obtain a desired result.

The Applicants respectfully traverse the Examiner's position and will lay out in following why neither of these burdens has been met.

#### **B. CITED ART**

The Examiner cites US Patent 6,513,019 to Lewis (hereinafter "Lewis") purports that Lewis teaches a method for delivering data objects according to the present invention.

Lewis is directed to "a computer system that receives incoming stochastic data records from plural disparate systems and data sources ... converts this disparate data into a common format; and derives information from the data; consolidates and integrates the data and information on a database ... distributes the data and information electronically and automatically publishes the data and information to subscribers" (col. 4 lines 55-65).

Essentially, Lewis is a data aggregator that makes data from multiple sources available from one system via the internet; "i[I]ncoming data messages are read, parsed, and conformed to a standard structure" (col. 8 lines 54-55). Lewis is precisely what was described in the background section of the present patent application, replete with the prior art inefficiencies which the present invention addresses.

The Examiner additionally cites U.S. patent 6,480,940 to Aino (hereinafter “Aino”). Aino is related to a multiprocessor architecture for a single computer. The computer architecture of Aino describes multiple computer processors tied to a common system bus and a shared main memory. In addition, as is common in multi-processor configurations, the computer architecture also include a cache memory that is part of each respective processor and operatively connected to the main memory. Each respective cache memory can hold a portion of data commonly stored in its entirety in the main memory. Aino is a closed system, describing the inner workings of a single computer.

Aino is completely unrelated to the distribution of information from a host system to a plurality of clients across distributed data communication network, wherein the clients can have “widely differing capabilities with regards to remote machine resources (e.g. CPU and memory), network bandwidth, and latency” (pg. 32 lines 21-23).

The Examiner further cites U.S. patent application 2002/0138389 A1 to Martone et al (hereinafter “Martone”). Martone is directed towards a network interface, essentially the design of a website screen. “The interface includes a browser toolbar and a task menu providing a number of user-selectable tasks that correspond to various activities performed by financial advisers on a daily basis. Each task is associated with a group of financial applications logically associated with the task. An object menu is associated with each user-selected task so as to provide the user with a user-selectable link for initiating each financial application associated with the user-selected task. Once initiated, each financial application includes an action menu for presenting one or more actions specific to the user-selected financial application.” (Martone para. [0010]). The only software necessary to practice Martone on a workstation is an Internet browser such as Internet Explorer (para. [0088]).

According to Martone, “u[U]ers are provided with an object suite based on a pre-determined user entitlement level. A user's entitlement level may be determined by their functional position, e.g., financial advisor, client service associate, operations manager, branch office manager, and division manager. Objects can be added or deleted to a user entitlement level as necessary. All security updates, new user, objects, adds or changes, may require secondary

approval, before they are processed. It should be recognized that while the description discusses a single user entitlement level, more than one entitlement level may exist for a user, e.g., one for market data functions and another for applications.

Authentication system uses the user's entitlement level to build [a] browser interface for a user. A user entitlement level is stored in an entitlement database(s) within system and may include a number of identifications or passwords for the user" (para. [0096]). Nothing in Martone addresses efficient methods and systems for distributed real time streams of dynamic data.

The Examiner further cites U.S. patent application 2002/013853 A1 to Baber et al (hereinafter "Baber"). Baber relates to a communications technique involving segmenting a data stream into multiple segments. The multiple segments are placed in a message queue and transported to a destination computer one segment at a time. The destination computer receives the individual segments into a message queue and reconstructs the segments to form a reconstructed data stream. Paragraph 38 which the Examiner specifically references describes a technique that allows a destination computer to request a retransmission if a full segment which should have been received is not available to the destination computer. Nothing in Baber describes associating a data object with an object state. Accordingly, nothing in Baber can or does describe or suggest transmitting a current object state to a delivery manager.

The Examiner also cites U.S. patent 6,708,213 to Bommaiah et al (hereinafter "Bommaiah"). Bommaiah relates to a methods and apparatus for enhancing existing caching systems to better support streaming multimedia (SM) over the Internet and other public network systems. Specifically, Bommaiah describes architecture and a method for supporting high quality live and on-demand streaming multimedia on a public network system, such as the Internet that uses helper servers (HS), also referred to as helpers, which operate as caching and streaming agents inside the network. In Bommaiah, existing caching techniques are enhanced to better support streaming media over the Internet.

The Examiner points out that Bommaiah includes a brief reference to reducing start-up latency in helper servers with transfer rate control when Bommaiah states: "The helpers serve to

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implement several methods specifically designed to support streaming media, including proxy caching, client request aggregation which describes the use of memory and disk resources at the helpers, and data transfer rate control to reduce start-up latency.”

U.S. patent 6,571,274 to Jacobs (hereinafter “Jacobs”) is also cited by the Examiner. Jacobs relates to a distributed processing system that allows for use of industry standard APIs which are typically used in either client/server, multi-tier, or peer-to-peer distributed processing systems. The software should support a variety of computer programming models. Further, Jacob relates to software that should enable (1) enhanced fault tolerance, (2) efficient scalability, (3) effective load balancing, and (4) session concentration control and should allow for rerouting or network reconfiguration.

### **C. IMPROPER 35 U.S.C. 103(a) REJECTION**

The Examiner has rejected claims 1-7, 14-17, 20, 24-26, 28-31, 34-37, 40 and 43-46 under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of Martone et al. (U.S. publication no. 2002/0138389). Applicants respectfully traverse the rejection and request allowance of the claims.

As indicated above, U.S. case law requires that the Examiner at least demonstrate that the prior art teaches each of the claimed elements and meet the requirement for a showing of the teaching or motivation to combine prior art references. Neither burden has been met.

Lewis describes aggregation of “stochastic data records from plural disparate systems and data sources.” Lewis is therefore describing the collection of random data records from more than one separate systems. The present invention claims connection to specific data streams, each data stream carrying respective data objects. As amended, claim ,1 and each claim dependent from claim 1, succinctly clarifies that the data objects are not stochastic, or random, data. Each data stream carries specific data claimed in the data object which includes a key that uniquely identifies the object type for the objects contained in the respective data stream. In

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addition, as the Examiner correctly acknowledges, Lewis does not describe or suggest the improvements in efficiency the present invention provides over the prior art through the use of:

- a) a client profile indicating data stream subscriptions and at least one object rule associated with the subscribed data streams;
- b) receiving a current state for a specific data stream;
- c) updating an object pool cache to reflect the current state; and
- d) evaluating the object rules against a specific data object and transmitting the current stat of the data object to the client in response to a positive evaluation.

Neither Aino nor Martone makes up for Lewis' deficiency. Aino simply is not applicable. The present invention is related to efficient distribution of information over a distributed communication network, such as the Internet and wireless communications networks. The present invention relates to transmission of data between multiple computers or workstations. As discussed above, Aino describes architecture for a computer with more than one processor and a shared memory. Other than being in the computer field, Aino relates to a completely different science and technology.

Martone also does not make up for Lewis' deficiencies since Martone is concerned with a Web interface design. Martone describes creation of a Web interface based upon the functional description of a user, but nothing in Martone describes the subscription to data streams, nor the updating of objects based upon receiving a current state for a specific data stream; updating an object pool cache to reflect the current state; and evaluating the object rules against a specific data object and transmitting the current stat of the data object to the client in response to a positive evaluation.

Accordingly, for the foregoing reasons, Applicants respectfully submit that the pending claims, 1-7, 14-17, 20, 24-26, 28-31, 34-37, 40 and 43-46 are in condition for allowance.

**D. 35 U.S.C. 103(a)**

The Examiner has rejected claims 8-12, 18, 21-23, 27 and 38-42 under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No.

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6,480,940) and to claim 7 of Martone et al. (U.S. publication no. 2002/0138389) and further in view of Baber et al. (U.S. publication no. 2002/0013853). Applicants respectfully traverse the rejection and request allowance of claims 8-12, 18, 21-23, 27 and 38-42.

For the reasons set forth above, Lewis, Aino and Martone do not describe or suggest the elements of 8-12, 18, 21-23, 27 and 38-42. Baber does not help. Baber describes a messaging technique for breaking apart a data stream at one end of a transmission, transmitting the individual segments and reconstructing the segments at a receiving end. Baber does not describe or suggest an ongoing designation of an object state. Nor does Baber describe or suggest transmitting a current state of a specific data object to a client and accordingly cannot describe or suggest that the transmission of the current state includes transmitting a client event that relates to the object state.

The present invention teaches an improved method for maintaining a constant flow of specific information to a client by creating data objects and associating each data object with a state. The various states are then utilized to determine which information needs to be transmitting to a client, on an ongoing basis. Nothing in Baber even approaches such a concept.

Accordingly, for the foregoing reasons, Applicants respectfully submit that the pending claims 8-12, 18, 21-23, 27 and 38-42 are in condition for allowance.

**E. 35 U.S.C. 103(a)**

The Examiner has also rejected claims 13 and 19-20 under 35 U.S.C. 103(a) as being unpatentable to Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of claim 1 to Martone et al. (U.S. publication no. 2002/0138389) and further in view of Bommaiah et al. (U.S. Patent No. 6,708,213). Applicants respectfully traverse the rejection and request allowance of the claims. Applicants respectfully note agreement with the Examiner when the Examiner correctly states that Lewis in view of Aino and further in view of Martone fails to teach monitoring the performance of communication with each client and dynamically adjusting the rate at which client events are transmitted to the respective clients in

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response to the monitored performance. However, the Applicants respectfully note that Bommaiah does not overcome the shortcomings of Lewis, Aino, and Martone.

Claim 13 and claim 14 are directed to the novel method of claim 1 to periodically transmitting a current state of a specific data object with the additional steps of monitoring the performance of communication with each respective client and adjusting the rate at which events are transmitted to one or more of the respective clients in response to the monitored performance.

Bommaiah simply does not address these aspects. Bommaiah does not even mention monitoring the performance of a communication, nor does Bommaiah describe or suggest adjusting the rate of transmission to a client based upon the monitored performance. Bommaiah only briefly refers to a technique for addressing start-up latency, which by its very definition precludes ongoing monitoring the performance. (col. 3 lines 4-5 “data transfer rate control to reduce start-up latency”). In addition, Bommaiah does not describe or suggest monitoring the performance of each client and adjusting the rate of transmission to one or more client individually.

The Applicant notes that the Examiner has not rejected claim 14 over Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of claim 1 to Martone et al. (U.S. publication no. 2002/0138389) and further in view of Bommaiah et al. (U.S. Patent No. 6,708,213), however, since claim 14 depends from claim 13 the Applicant would like to note that Bommaiah does not teach the claim limitations of claim 13 and even more so does not describe or suggest the elements of claim 14. Bommaiah simply does not address determining network transmission and client processing time for received events.

Accordingly, for the foregoing reasons, Applicants respectfully submit that the pending claims 13 and 19-20 are in condition for allowance.

**F. 35 U.S.C. 103(a)**

The Examiner has also rejected claim 33 under 35 U.S.C. 103(a) as being unpatentable to Lewis (U.S. Patent No. 6,513,019) in view of Aino (U.S. Patent No. 6,480,940) and further in view of claim 40 to Martone et al. (U.S. publication no. 2002/0138389) and further in view of

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Jacobs et al. (U.S. Patent No. 6,571,274). Applicants respectfully traverse the rejection and request allowance of the claims. Applicants respectfully note agreement with the Examiner when the Examiner correctly states that Lewis in view of Aino and further in view of Martone fails to provide any suggestion or the incorporation of a HTTP tunneling transport module between the delivery manager and the respective client. However, Applicants also respectfully note that Jacobs does not make for the deficiencies of Lewis, Aino and Martone.

Claim 33 relates to a sophisticated delivery mechanism that includes a delivery manager with a client queue manager that is configured to place received client events on a client event queue and a push module configured to retrieve state events from the client event queue and send a client event derived from the state event to the respective client; with a HTTP Tunneling transport module connected between the delivery manager and a client.

The Examiner finds it particularly relevant that Jacobs mentions Hypertext Transport Protocol ("HTTP") tunneling. However, the present invention is not claiming HTTP Tunneling as their invention, but a particular application of HTTP Tunneling. The portion of Jacobs that the Examiner finds particularly relevant simply includes HTTP tunneling in a list of protocols that a first device communicates with a second device. The passage does not describe any particular application of HTTP tunneling, but only lists it as a possible choice of protocols that can be chosen to communicate when it states: "According to another aspect of the present invention, the first processing device communicates with the second processing device using a protocol selected from the group consisting of Transmission Control Protocol ("TCP"), Secure Sockets Layer ("SSL"), Hypertext Transport Protocol ("HTTP") tunneling, and Internet InterORB Protocol ("IIOP") tunneling." Jacobs therefore does not describe or suggest the inventive aspects of claim 33.

Accordingly, for the foregoing reasons, Applicants respectfully submit that the pending claim 33 is in condition for allowance.

**G. MOTIVATION TO COMBINE REFERENCES UNDER 35 U.S.C. 103(a)**

In addition to providing disclosure of each of the claim elements, the Examiner must show a motivation to combine disparate references. As indicated by the case law above, U.S. law provides that a combination of known elements may be patentable whether it be composed of elements all new, partly new or all old. Therefore, even if all the elements of the pending claims were previously described in the cited art, which they are not (the Applicants respectfully suggest that they have demonstrated above that all of the elements have not been described by prior art), the Examiner still must demonstrate a motivation to combine the multiple references cited.

The Examiner has not shown any connection between the many references referred to, nor has the Examiner shown any motivation to combine the many references, other than the Examiner's opinion that it would have been obvious to one schooled in the arts at the time of the invention.

As indicated in the case law above, the courts have often strenuously challenged combination of references. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." The Applicant is entitled to a patent unless the Examiner can identify, specifically, the reasons one of ordinary skill in the art would have been motivated to select the references and combine them. The burden of demonstrating a motivation to combine the references, simply has not been met.

In addition, whereas the courts have often struggled to support the combination of even two references, it is almost unprecedented to find a motivation to combine three and four disparate references. Combination of so many references is particularly irregular when it is based solely on the Examiner's contention that it would have been obvious for one schooled in the art to: first find these references; and then combine the many references into the present invention; all without the benefit of hindsight provided by the present invention.

The Applicants note in particular that it is not obvious for someone to combine so many separate inventions from different areas of expertise. Without some credible motivation, the Applicants content that it is not obvious for someone schooled in the art of designing an internal

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architecture for a multiprocessor computer, to combine the internal architecture with a WEB services browser interface and also with a financial services industry alert system, or an invention directed to clustered enterprise JAVA , or a method of transferring a file using a message queue; in order to build the sophisticated, specific and useful result of the present invention. The first hurdle would perhaps need to be which art the person would need to be schooled in: computer design, financial services, WEB interfaces, distributed network delivery, Java virtual machines, streaming multimedia, etc., since the cited art covers all of these arts.

### **CONCLUSION**

Allowance of this application, as amended, is courteously urged. The Commissioner is hereby authorized to deduct any fees due in connection with this response to Deposit Account No. 50-0521.

Respectfully submitted,

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